MISSOURI DEPARTMENT OF NATURAL RESOURCES
P.O. Box 1368 1915 Southridge Drive Jefferson City, Missouri 65102 (314) 751-3241

February 22, 1982

Mr. James K. Dow, P.E.
Litton Advanced Circuitry Division
P.O. Box 2847
Springfield, Missouri 65803

Dear Mr. Dow:

We have made a review of the proposed monitoring system with assistance from the Division of Geology and Land Survey (DGLS). Except for a few minor cases, the proposed plan would have met the requirements of 40 CFR 265 Subpart F, considering the consulting hydrologist's definition of the uppermost aquifer. In EPA's proposed groundwater monitoring regulations (see February 5, 1981 Federal Register), the term "uppermost aquifer" was replaced by "surficial aquifer". The term surficial aquifer is defined as "the uppermost aquifer with an upper boundary defined by a water table which is naturally recharged from the ground surface and/or from the unsaturated zone and in addition includes formations which are saturated with water intermittently, seasonally, or which develops a perched water table within the unsaturated zone". With this in mind, the department makes the following comments.

1. The proposed depth of the monitoring wells would be monitoring the minor (shallow) aquifer above the Northview Formation, at depths of about 150' to 200'. It seems doubtful that seepage from the percolation lagoon would reach those depths at locations that near the lagoon, even though the Burlington-Keokuk Limestone (60'-80') is deeply weathered and perhaps cracked. This does not appear to meet the requirements of the uppermost aquifer, better defined as the surficial aquifer. The DGLS geologist suggested shallow wells to the top of the bedrock, or even better, monitoring trenches (see attachment) due to the generally preferential flow paths. These suggestions are dependent upon the specific geologic setting such as depth to bedrock or the extent to which the bedrock is pinnacled.

2. The report fails to mention the present problems in groundwater contamination. According to 40 CFR 265.90(d)(2) with reference to 265.93(d)(4) the rate and extent of hazardous constituents must be included in the plan. Wells or trenches at various distances from the lagoon on the northwest (down gradient) side of the lagoon could show the attenuation of the contaminant. This should also be included in the groundwater monitoring system.

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3. Trichloroethylene should be included in Table 1 with a limiting concentration of one microgram per liter. The results from the indicator parameters - pH, specific conductivity, Total Organic Carbon (TOC), Total Organic Halogen (TOX) - should be submitted fifteen days after analysis is completed during the first year. Page 13 of the Groundwater Monitoring Program indicates that "during the first year of monitoring, the concentrations of TOC, TOX, pH and specific conductivity will be submitted within 15 days of the end of the quarterly reporting period". This should be the parameters in Table 1 with those parameters exceeding the maximum level separately identified (see 40 CFR 265.94(a)(2)(i)). The analysis of TOX and TOC may take longer than 15 days, therefore should be submitted fifteen days after the analysis is completed. Also the indicator parameters - pH, specific conductivity, TOC and TOX - should include four replicate measurements even during the background determinations.

We wish to make clear that these comments do not preclude further comments from EPA. Please be aware that the notice in cases of significant increase (pH decrease) should be sent to DNR and EPA, as well as the quarterly reporting of Table 1 results.

Please consider these comments and respond no later than March 19, 1982 If you have any questions or if we can be of any assistance, feel free to contact Mr. Paul Meiburger of this office or the Springfield Regional Office.

Sincerely,

David E. Bedan by dRE

David E. Bedan, Ph.D
Director
Waste Management Program

DEB/PM/bki

cc: Mike Sanderson, U.S. EPA
Springfield Regional Office
Jim Williams, DGLS

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